the sciatic nerves, in a dog that had undergone, ten days previously, the section of the chorda tympani and the excision of the superior cervical ganglion on the right side. Under the influence of this excitation an abundant flow of saliva was produced from Wharton's duct on the left side, while not a single drop flowed from the tube in the duct of the opposite side.

It follows, therefore, from these experiments, that section of the excito-secretory nerves of the sub-maxillary salivary gland does not exert such an influence on the function of the gland, as does the section of the sciatic over the sudoriparous glands of the digital pulps of the posterior limb. Jaborandi still acts on the sub-maxillary gland many days after the section of the excito-salivary nerves, while it or its alkaloid, pilocarpine, from the sixth day after the section of the sciatic (the nerve that appears to contain all the sweat exciting fibres for the hind limb), has no more action on the sudoriparous glands of the corresponding member.

What is the cause of such dissimilarity of the results of two experiments that offer at first sight so great a resemblance? Is it due solely to the difference of constitution of the substance of the proper anatomical elements of the two kinds of glands, sudoriparous and salivary? Shall we seek the reason in the circulatory modifications produced under the influence of the section of the nerves, which modify differently the functions of the simple glands (sweat glands) from those of the composite glands (sub-maxillary)? or rather, shall we not attribute this dissimilarity to the enormous quantity of nerve cells distributed, either singly or in more or less voluminous ganglionary groups over the whole length of the secretory nerves destined for the sub-maxillary gland, cells which, after the division of these nerves apparently prevent the fibres from gradually losing their excitability to their peripheral terminations?

The latter explanation seems most satisfactory, but new researches are needed to definitely establish its value.

The Influence of the Quantity of Blood in the Muscles on Their Irritability.—The following is the *resumé* of a note by M. Schmoulewitsch to the Acad. des Sciences, Paris, in September last, as given in the *Bulletin Générale de Thérapeutique:*

The experiment of Stevson, dating from the seventeenth century, and which consists in producing a paralysis of the posterior members by a ligature of the abdominal aorta, proves the intimate relation between the circulation of blood in the muscles and their function. M. Brown-Séquard has shown that in animals and even in man, the stiffened muscles recover their contractility after injection of arterial blood. It may be admitted in a general way that bloodless muscles lose their irritability and cease to perform their functions.

In repeating these experiments, I have found that the muscles in becoming anæmic do not at once lose their irritability. On the contrary, this for a while is even increased, and only commences to disappear after a certain degree of augmentation. The same phenomenon is observed after section of a nerve, the irritability of the corresponding muscle is increased for

the first few moments. This latter phenomenon should, in my opiniou, be attributed also to anæmia, as this is the immediate result of nerve section.

The celebrated experiments of MM. Cl. Bernard, Vulpian, and others have demoustrated, that in the muscular nerves there are vaso-motor braneches, the excitation of which produces a complete anæmia of the muscles, while their section causes u hyperæmia and increase of temperature. But we have, as a first result of the section, a mechanical excitation of the nerve.

That the anæmia is the cause of increased irritability of the muscles, I have proven by the following experiments :

1. After compression of the aorta or ligating the artery of a muscle, we cannot produce any augmentation of the irritability after section of a nerve. This demonstrates that this augmentation depends exclusively upon the circulation, for, as I say, the circulation once interrupted, the section of the nerve is without effect.

2. In curarizing an animal to the stage of complete paralysis, we always find an increase of muscular irritability following the section of the nerve. Here evidently, only, the vaso-motor nerves can act, since, as has been demonstrated, they are not easily paralyzed by curare.

Anæmia, therefore, like certain affections of the nervous system that disorder the functions of the vaso motors, should increase the muscular irritability, a fact observed clinically, but not as yet sufficiently demonstrated theoretically.

Termination of Nerves in the Voluntary Muscles.—At a recent session of the Acad. des Sciences, Paris (rep. in *L'Union Médicale*, Nov. 9), M. Tschiriew offered the following communication in regard to the nerve terminations in the striped muscles.

The termination of the nerves in the striped muscles has been the subject in recent times of numerous investigations, which, in spite of their interest, have not as yet given us complete light upon the subject. It has been thought, indeed, for example, that the terminations of the sensory nerves in the muscles have been found, but this discovery due to defective investigations cannot be considered as exact. Besides, all the efforts to find the intermediate forms between the terminations *en plaques* and the motor terminations in the frog have been so far without success.

"The procedure of staining the nerves with the chloride of gold, recently communicated by M. Ranvier, having supplied me with an excellent and certain method for the study of the nerve terminations, I undertook a series of researches that have yielded me some new results, which I have the honor to detail.

1. "The non-medullated nerve fibres found in the smooth muscles of the frog, such as the thoracic cutaneous muscle, and what have been considered hitherto as sensory fibres, do not appertain to the muscle, properly speaking, but to its aponeurosis. These fibres, coming from the intra-muscular nerves, form in the aponeurosis a large-meshed net-work. Their terminations are similar to the nerve terminations in the cornea.

"It is evident from their microscopic structure as well as from their ana-